FALLS PREVENTION AMONG GERIATRIC PATIENTS AT HOSPITAL SETTING : AN INTEGRATED MINI REVIEW

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Abstract

This article summarise research and draws overall conclusion on falls prevention interventions for geriatric patients at hospital setting and insights to plan proper fall prevention. Design: Integrative literature review with search of CINAHL, MEDLINE, and SCOPUS and ancestry searching literatures between 2020 to 2023. Findings: 5 out 613 articles that fullfill inclusion criteria were screened for the study. Conclusion: Extrinsic risk factors combined with behavioral and intrinsic factors contribute to falls in geriatric patients at hospital setting. Clinical Relevance: The fall risk factors among geriatric patients in hospital setting should be include into consideration of healthcare practitioners to develop fall prevention plans.

Keywords: Hospital, Falls, Fall Prevention, Fall risk, Geriatric, Intervention.

Introduction

Falls are multifactorial, complex, and interrelated. Falls are predominately problem of older people, worldly, people over 65 years old accounts for 70 % of hospitalization. Individual intrinsic factors such as commodities, behavioral disturbances, agitation, confusion, vision problems, delirium, muscle weakness, urinary incontinence and impaired balance have increased risk for a falls when hospitalized. Transient factors that change over time such as postural hypotension or syncope, poly-pharmacy or medication changes are prevalent and co-exist in many hospitalized patients and associated an increased risk of falls (Dabkowski *et al*., 2022).

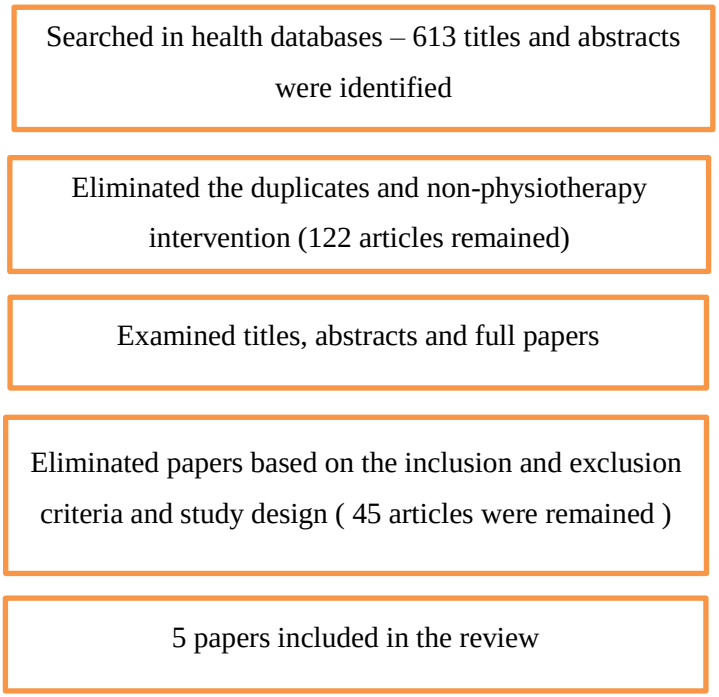
The fall risk assessment tool that commonly used in hospital setting such as Morse Fall Scale (MFS), as general fall risk assessment was effective in treating geriatric

hospitalized patients. However, the accuracy of the screening tool for modifiable risk factors and non- modifiable risk factors and usage for specific high fall risk condition is still questionable. Furthermore, most fall prevention programs which include intervention for falls management are complex and multifactorial and the intensity and duration are unclear. Therefore, this review provides the best recent evidence available in scientific literature to guide healthcare practitioners when developing falls prevention programs in future.

Methodology

The flowchart of the selection process is shown in Figure 1.

Figure 1: Selection process of article for review



The intent of an integrative review is to summarize pertinent research findings and to use clinical judgment to draw conclusions from the body of literature on a particular topic to support and guide evidence-based practice. The identification of relevant studies for this article was performed in two steps. First, a search was conducted of the databases CINAHL, MEDLINE and SCOPUS and ancestry articles for pertinent articles published between 2020 and 2023. Key words for the search were “falls,” “hospital,”, “intervention” “falls prevention”, “fall risk” and “geriatric”. Second, the reference lists were searched for additional relevant studies. The inclusion criteria for this review included studies of adult patients in the hospital setting where falls was identified as the main outcome; and those where interventions were identified. Only English language papers were selected. A reviewer examined relevant articles that met the

inclusion criteria, and consensus was reached on which articles to retain through an iterative process. The initial search generated 613 titles and abstracts. Of 122 potentially relevant items that remained after title and abstract screening, 45 were identified. Of those, 5 articles met the inclusion criteria and exclusion criteria (see Table 1). The articles included adults 65 years of age or older, in various types of hospital units (e.g., rehabilitation wards, intensive care unit (ICU), emergency), with the primary outcome examined patient falls. The exclusion criteria are discharged geriatric patient. Grey literatures such as these, dissertation, and conference abstract excluded from study as it is not peer reviewed and indexed in major bibliographic resources. Non-accessible full text research articles were excluded during data screening (Udoh *et al*., 2020). The findings of this integrative review are as follows in Table 1 (Appendix 1).

Result and Discussion

Table 1(a) : Summary of overall conclusion on falls prevention risk and interventions for geriatric patients at hospital setting

Author & Year	Falls incidence	Risk of falls / Falls prevention intervention	Fall Risk Assessment	HCP FP Practice on Geriatric Inpatient Falls	Conclusion
Sattar *et al.* (2020)	Due to increased frailty inpatients have high risk fall.	Hyponotics, sedatives, selective serotonin reuptake inhibitors (SSRIs), opiods, antiepileptics, and antipsychotics and cognitive impairments.	No gold standard fall assessment is considered to identify risk except Timed up and go test which are feasible.	Oncology nurses helping to identify older patients at risk for falls.	More robust research is needed to identify strong predictors for older adults with cancer as it requires specific intervention approaches.
Magnuszewski *et al*., 2022	Total 3.3% of inpatients experienced fall during daily activity commonly while getting out from the bed	Gait and balance was poor.	Proposed inter RAI AC Acute Care (AC) tools.	N/A	Patients diagnosed with orthostatic hypotension and Parkinson's and treated with statins, benzodiazepines, or insulin must be given good attention.
Morris *et al*. (2022)	The rate of fall 1000 patient days was 10.6 in the control group compared to 1.5 in the experimental monitored in	No fall risk but falls prevention was done by patient education, modifications in environment and policies.	Scored Fall risk Assessment tool (FRAT).	Few studies reported a trend towards physiotherapy or additional rehabilitation therapies to lower the	No definitive method exists for hospital falls prevention. Whereas education was the most effective strategy for reducing the rate

	medical trail.			hospital falls but shows no significance.	and risk of hospital falls.

Table 1(b): Summary of overall conclusion on falls prevention risk and interventions for geriatric patients at hospital setting

Author & Year	**Falls incidence**	**Risk of falls / Falls prevention intervention**	**Fall Risk Assessment**	**HCP FP Practice on Geriatric Inpatient Falls**	**Conclusion**
Dabkowski *et al*. (2022)	N/A	Intrinsic factor leads to behavior risk (fear of falling, confusion insight into own needs).	N/A	Healthcare practitioners involve in providing falls education.	Recent efforts focused upon understanding the patients perspectives of their fall risk, even with falls education, patient engaged in risk taking behaviour.
Trinh *et al.*, (2023)	From 236720 inpatient admissions, 721 falls were recorded, 128 of which were associated with a fracture.	Advanced age, cognitive impairment and delirium risk factors for falls in hospital inpatients	N/A	N/A	Greater understanding of characteristics of patients at risk of falls with fractures, as well as knowledge of the considerable associated morbidity and mortality, will help to put preventative measures in place.

Discussion

Falls Incidence and Risk Factors in Geriatric Inpatient Settings

The studies presented shed light on the significant issue of falls among geriatric inpatients, highlighting both the incidence rates and key risk factors associated with these incidents. Sattar et al. (2020) underscored the relationship between frailty in advanced disease settings and high fall rates among inpatients. Contributing factors identified across the studies include the use of certain medications such as hypnotics, sedatives, selective serotonin reuptake inhibitors (SSRIs), opioids, antiepileptics, and antipsychotics, as well as cognitive impairments. Multimorbidity and a higher number of medications were also

found to increase fall risk, as indicated by Magnuszewski *et al.*, (2022). Trinh *et al.*, (2023) further emphasized advanced age, cognitive impairment, and delirium as significant risk factors for falls, particularly those resulting in fractures.

Falls Prevention Interventions and Strategies

To address the challenge of falls in geriatric inpatient settings, various falls prevention interventions and strategies have been explored. Morris *et al.* (2022) highlighted the effectiveness of falls prevention measures such as staff and patient education, environmental modifications, assistive devices, policies and systems, rehabilitation, and medication management. Notably, education emerged as a particularly effective strategy for reducing fall rates and risks. The studies suggest that a multi-faceted approach, encompassing both patient-centered interventions and environmental adjustments, is essential for effectively mitigating falls.

Fall Risk Assessment and Healthcare Practitioner Practices

One common thread throughout the studies is the importance of accurate fall risk assessment to identify individuals at risk. Sattar *et al.* (2020) pointed out the lack of a gold standard assessment tool, though the Timed Up and Go Test was deemed feasible. The inter RAI AC Acute Care (AC) tool proposed by Magnuszewski *et al*. (2022) as a potential alternative to existing tools highlights the ongoing need for refined assessment methods. The role of healthcare practitioners, particularly oncology nurses as highlighted by Sattar *et al.* (2020), in identifying patients at risk for falls and initiating timely interventions is crucial.

Conclusion

In conclusion, this study provide valuable insights into the multifaceted nature of falls among geriatric inpatients. The findings highlight the need for tailored interventions that consider behavioral and extrinsic fall risk factors and incorporate effective educational components. Further research is warranted to develop comprehensive falls prevention strategies that encompass risk assessment, patient education, medication management, and environmental modifications to ensure the safety and well-being of geriatric inpatients.

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